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RABIN & Berdo, PC
1101 14TH STREET, NW
SUITE 500
WASHINGTON, DC 20005

EXAMINER

BAKER, STEPHEN M

ART UNIT PAPER NUMBER

2133

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,563

Applicant(s)

LIN ET AL.

Examiner

Stephen M. Baker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 042704.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because:

In Figure 4, which is presumably conventional for a DVD process, after steps (S2-S5) of generating IEC, RSV and EDC values, no subsequent mention is made of these values, although all should apparently be included in the data processed by generation of parity PO, by interleaving and by generation of parity PI, as required by the standard DVD format; the step (S7) apparently should refer to attaching parity PO instead of parity PI (see, e.g., Fig. 12 of US Patent No. 6,005,839 for comparison) and omits an essential step of generating parity PO before attaching the parity PO "to the data sector"; the step (S9) of generating PO "according to the read data stored in the DRAM" apparently should be a PI generation step and does not mention including the parity PO in the data used for the generating of parity PI as required by the standard DVD format, nor does it mention interleaving the data and parity PO first, as required by the standard DVD format.

In Figure 5, step 520 "vertically scrambling main data to generate PO" confusingly implies that "vertically scrambling main data" is sufficient "to generate PO"; step 530 "scrambling main data to generate PI" confusingly implies that "scrambling main data" is sufficient "to generate PI"; step 540 "recording the scrambled data due to generating PI" confusingly implies that "scrambled data" is "due to generating PI."

Reference is hereby made to the suggestions regarding claim 9, found below in the claim rejections.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “vertical calculation mechanism” as recited in claims 5, 6, 15, 16, 25 and 26 and disclosed to be used for “vertically scrambling” must be shown or the feature canceled from the claims. No new matter should be entered.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:

In paragraph 0006, "should each contains 172 bytes" apparently should be "should each contain 172 bytes".

In paragraph 0022, "as a result if there has a block needs same main data to record" is not comprehensible; a comprehensible reason for "the ID change" is not provided.

In paragraph 0024, "and remain the main data in DRAM the same" apparently should be "and the main data in DRAM remains the same"; "data in accompanied with ID, IED, RSV, EDC, PI and PO arrange in orders" is unclear and apparently should be "data accompanied with ID, IED, RSV, EDC, PI and PO in proper sequence" or the like.

In paragraph 0025, "because the scrambled data while generating PO is not stored back into DRAM, as a result, the embodiment provides a same main data since the main data stored in DRAM are not scrambled or changed" is unclear and apparently should be "because the scrambled data used for generating PO is not written over the main data stored in DRAM, the main data stored in DRAM remains unchanged" or the like.

In paragraph 0036, "performing a vertically scrambling procedure such that an ECC outer-code parity (i.e. PO) is derived" is non-idiomatic and vague and apparently should be "performing a scrambling procedure on vertically-sequenced data and deriving an ECC outer-code parity (PO) from the result" or the like; "in accompanied"

apparently should be "accompanied"; "arranged in orders" is not idiomatic and apparently should be "arranged in proper sequence" or the like.

In paragraph 0044, "are recording onto a disc" apparently should be "are recorded onto a disc" and "the other blocks which data have been written into is recording onto the disc" apparently should be "the other blocks which have been encoded are recorded onto the disc".

In paragraph 0045, "the block is no scrambled" apparently should be "the block is not scrambled".

Appropriate correction is required.

Claim Objections

5. Claims 2, 12, 17 and 22 are objected to because of the following informalities:

Claim 2 is poorly-worded and apparently should read as:

"The method as claimed in claim 1, wherein ~~after generating the outer code parity,~~ the main data scrambled in the first way does not replace the main data ~~remains unchangeable~~ in a memory."

Claim 12 is poorly-worded and apparently should read as:

"The method as claimed in claim 9, wherein ~~after generating the outer code parity,~~ the main data scrambled in the first way does not replace the main data ~~remains unchangeable~~ in a memory."

Claim 17 is poorly-worded and apparently should read as:

"The method as claimed in claim 9, wherein the data information comprises ID (Identification Data), IED (ID Error Detection Code), RSV (Reverse), and EDC (Error Detection Code)."

Claim 22 is poorly-worded and apparently should read as:

"The method as claimed in claim 19, wherein the outer-code parity is ~~generating~~ superior to the inner-code parity."

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is poorly worded, apparently omits an essential intermediate steps of encoding and an essential difference between the two scrambling operations, and apparently should read as:

"A method of scrambling data for generating parity codes of a data sector ~~arranging~~ arranged in an array of a plurality of rows having data information and main data, wherein outer-code parity is superior to inner-code parity, ~~comprises~~ comprising:

scrambling a first ordering of the main data of the data sector in a first way, ~~to for~~ generating outer-code parity; and
scrambling a second ordering of the main data of the data sector in a second way, ~~to for~~ generating inner-code parity, ~~wherein the outer-code parity is generating superior to the inner-code parity."~~

Claim 9 is poorly-worded, apparently omits essential intermediate steps of encoding and an essential difference between the two scrambling processes, and apparently should read as:

"A method for generating a recording data of an optical disk,
wherein outer-code parity is superior to the inner-code parity, comprising:
receiving a plurality of data sectors, ~~each data sectors~~ having data information and main data, and ~~each data sectors arrange~~ arranged in an array of a plurality of rows;
scrambling a first ordering of the main data of each corresponding data sector ~~to generate~~ in a first way and generating therefrom corresponding outer-code parity of each data sector;
scrambling a second ordering of the main data of each corresponding data sector ~~to generate~~ in a second way and generating therefrom, and from outer-code parity, corresponding inner-code parity of each data sector; and
recording the main data scrambled data ~~due to generating the inner-code parity, with respect to each~~ in the second way, the data

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information, the inner-code parity and the outer-code parity onto the optical disk, ~~wherein the outer-code parity is generating superior to the inner-code parity.~~"

Claim 19 is poorly-worded, apparently omits essential intermediate steps of encoding and an essential difference between scrambling processes, and apparently should read as:

"A method of repeatedly ~~writing a~~ reading main data which stored in a memory, ~~when~~ and recording an optical disk, comprising:

scrambling in a first way the main data directly ~~deriving as read~~ from the memory ~~to generate~~ in a first ordering and generating outer-code parity therefrom, wherein the main data remains unchanged in the memory;

scrambling in a second way the main data directly ~~deriving as read~~ from the memory ~~to generate~~ in a second order and generating inner-code parity therefrom and from the outer-coded parity; and

recording the main data scrambled data ~~due to generating the inner-code parity in the second way, together~~ with a corresponding data information, the inner-code parity and the outer-code parity, onto the optical disk, ~~wherein the main data remains unchangeable in the memory after generating the outer-code parity.~~"

Allowable Subject Matter

8. Claims 1-27 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

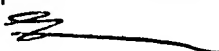
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (571) 272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen M. Baker



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Primary Examiner
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smb